

**IN THE CLAIMS:**

Please amend claims 1-5, 7-20, 22, and 23 as indicated below.

A listing of the status of all claims 1-23 in the present patent application is provided below.

1 (Currently Amended). A method for end-to-end admission control of real-time packet flows in a network having a plurality of network elements, the method comprising:

transmitting at least one probe packet from a first network element to a second network element via a network path;

determining, at at least one intermediate network element on the network path, at least one flow rate associated with a plurality of packets;

~~marking encoding~~ at least ~~one~~ two predetermined bits in the at least one probe packet ~~if based at least in part upon a level of congestion associated with the at least one flow rate is greater than a predetermined rate;~~ and

controlling an admission of additional packets into the network based at least in part on the ~~marking encoding~~ of the at least ~~one~~ two predetermined bits in the at least one probe packet.

2 (Currently Amended). The method according to claim 1, further comprising denying the admission of the additional packets into the network if the at least ~~one~~ two predetermined bits in the at least one probe packet ~~is marked~~ are encoded to indicate that the at least one flow rate is greater than a predetermined rate.

3 (Currently Amended). The method according to claim 1, further comprising:

transmitting at least one second probe packet from the second network element to the first network element via the network path;

~~marking~~ encoding at least ~~one~~ two second predetermined bits in the at least one second probe packet ~~if~~ based at least in part upon a level of congestion associated with the at least one flow rate ~~is greater than a second predetermined rate;~~ and

controlling the admission of the additional packets into the network based at least in part on the ~~marking~~ encoding of the at least ~~one~~ two second predetermined bits in the at least one second probe packet.

4 (Currently Amended). The method according to claim 3, wherein the first network element echoes information associated with the at least ~~one~~ two second predetermined bits in the at least one

second probe packet in a transmission to the network.

5 (Currently Amended). The method according to claim 1, wherein the admission of the additional packets is based at least in part on priorities or importance of the plurality of packets and the additional packets.

6 (Original). The method according to claim 1, wherein the admission of the additional packets into the network is controlled by an entity that controls the network.

7 (Currently Amended). The method according to claim 1, wherein information associated with the at least ~~one~~ two predetermined bits in the at least one probe packet is communicated to at least one of the first network element and the second network element.

8 (Currently Amended). The method according to claim 1, wherein the at least one intermediate network element is part of a bandwidth-limited path in the network.

9 (Currently Amended). The method according to claim 1, wherein the plurality of packets comprise real-time packets.

10 (Currently Amended). The method according to claim 1, wherein the plurality of packets comprise Internet Protocol (IP) packets.

11 (Currently Amended). The method according to claim 10, wherein the plurality of packets comprise voice over IP packets.

12 (Currently Amended). The method according to claim 10, wherein the plurality of packets comprise video over IP packets.

13 (Currently Amended). The method according to claim 10, wherein the plurality of packets comprise real-time multimedia over IP packets.

14 (Currently Amended). The method according to claim 10, wherein the at least ~~one~~ two predetermined bits ~~is~~ are part of a Differentiated Services field in an IP header of the at least one probe packet.

15 (Currently Amended). The method according to claim ~~[[1]]~~2, wherein the predetermined rate is based on a network bandwidth allocated for the plurality of packets.

16 (Currently Amended). The method according to claim 15, wherein the predetermined rate is raised to a value above the allocated network bandwidth for a predetermined period of time.

17 (Currently Amended). The method according to claim 1, ~~further comprising wherein~~ encoding the at least ~~one~~ two predetermined bits in the at least one probe packet based at least in part on the at least one flow rate comprises encoding two predetermined bits in the at least one probe packet to indicate one of four levels of congestion associated with the at least one flow rate.

18 (Currently Amended). The method according to claim 1[[7]], further comprising discontinuing at least one packet flow based on the encoded at least ~~one~~ two predetermined bits.

19 (Currently Amended). The method according to claim 1[[7]], further comprising lowering a transmission rate between the first network element and the second network element or between any two network endpoints based on the encoded at least two predetermined bits.

20 (Currently Amended). The method according to claim 1[[7]],

further comprising suspending packet transmissions without terminating the connection between the first network element and the second network element or between any two network endpoints based on the encoded at least two predetermined bits.

21 (Cancelled).

22 (Currently Amended). At least one ~~processor~~ computer readable medium for storing a computer program of instructions configured to be readable by at least one ~~processor~~ computer for instructing the at least one ~~processor~~ computer to execute a computer process for performing the method as recited in claim 1.

23 (Currently Amended). A system for end-to-end admission control of real-time packet flows in a network, the system comprising:

a first network element that transmits at least one probe packet to a second network element via a network path;

at least one intermediate network element on the network path that:

determines at least one flow rate associated with a plurality of packets $[[r]]_i$  and

~~marks~~ encodes at least ~~one~~ two predetermined bits in the at least one probe packet ~~if~~ based at least in part upon a level of congestion associated with the at least one flow rate ~~is greater than a predetermined rate;~~ and

an admission control module that controls an admission of additional packets into the network based at least in part on an examination of the at least ~~one~~ two predetermined bits in the at least one probe packet.